



SEQUENCE LISTING

<110> Mitchell, Lloyd
Garcia-Blanco, Mariano M.
Puttaraju, Madaiah
Mansfield, Gary S.

<120> METHODS OF COMPOSITIONS FOR USE IN
SPLICOSOME MEDIATED RNA TRANS-SPlicing

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<141> 2001-08-29

<150> 09/838,858
<151> 2001-04-20

<150> 09/756,096
<151> 2001-01-08

<150> 09/158,863
<151> 1998-09-23

<150> 09/133,717
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<151> 1998-05-28

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Escherichia coli lacZ gene

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<220>

<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

<400> 29
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<210> 30
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<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<211> 47
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<220>
<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<210> 33
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<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

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<210> 34
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

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<210> 35
<211> 35
<212> DNA
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<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

<400> 35
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<210> 36
<211> 37
<212> DNA
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<220>
<223> Oligonucleotide primer complimentary to the beta
HCG6 gene (accession #X00266)

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<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<210> 38
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<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<223> Oligonucleotide primer complimentary to the
Escherichia coli lacZ gene

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<212> DNA
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<400> 41
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<210> 42
<211> 30
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<400> 42
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<400> 51
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<210> 52
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<213> Homo sapien

<400> 52
aactagaagg cacagtcgag g 21

<210> 53
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Trans-spliced product containing human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diphtheriae toxin A sequence

<400> 53
gagatgttcc agggcgtgat gatg 24

<210> 54
<211> 127
<212> RNA
<213> Artificial Sequence

<220>

<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to the specification

<400> 54
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucuguu uuuuucucga 120
gcugcag 127

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<213> Artificial Sequence

<220>

<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to the specification

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nnnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aacuucugua uuauucucga 120
gcugcag 127

<210> 56
<211> 127
<212> RNA
<213> Artificial Sequence

<220>

<223> PTM intramolecular base paired stem

<221> misc_feature
<222> (57)...(70)
<223> Loop comprising a combination of 14 nucleotides
according to the specification

<400> 56
gcuagccugg gacaaggaca cugcuucacc cgguuaguag accacagccc ugagccnnnn 60
nnnnnnnnnnn aucguuaacu aauaaacuac uaacugggug aaguucuguc cuugucucga 120

gcugcag 127

<210> 57
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product containing human chorionic
gonadotropin gene 6 sequences and Corynebacterium
diphtheriae toxin A sequences

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<213> Artificial Sequence

<220>
<223> Artificial sequence derived from Escherichia coli
lacZ gene

<400> 58
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<210> 59
<211> 33
<212> DNA
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<220>
<223> Artificial sequence derived from Escherichia coli
lacZ gene

<400> 59
cgtttacagg taagaggatc ctccggaggg ccc 33

<210> 60
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence derived from Escherichia coli
lacZ gene

<400> 60
tggtgtcaaa aataataagt taacaagctt 30

<210> 61
<211> 25
<212> DNA
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<220>

<223> Trans-spliced product containing Escherichia coli
lacZ and human chorionic gonadotropin gene 6
sequences

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cagcagcccc tgtaaacggg gatac 25

<210> 62
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<212> DNA
<213> Artificial Sequence

<220>

<223> Trans-spliced product containing Escherichia coli
lacZ gene sequences

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agggcggctt cgtctaataa tggactggg tggatcagtc gctgattaaa tatgtatgaaa 180
acggcaacc cgtggtcggc ttacggcggt gatttggcg atacgcccga cgatcgccag 240
ttctgtatga acggctcggt ctttgccgac cgacgcccgc atccag 286

<210> 63
<211> 196
<212> DNA
<213> Artificial Sequence

<220>

<223> Trans-spliced product containing Escherichia coli
lacZ gene sequences

<400> 63
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agggctgct gctgttgctg ctgctgagca tggcgccgac atgggcatcc aaggagccac 180
ttcggccacg gtgccc 196

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<212> DNA
<213> Artificial Sequence

<220>

<223> Trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequences

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aacgttgctc gaggactaac tggcacctct tctttttttt cctgcagact tcacttctaa 120
tgatgattat gggagaactg gagccttcag agggtaaaat taagcacagt ggaagaattt 180
cattctgttc ttagtttcc tggattatgc ctggcaccat taaagaaaat atcatctttg 240
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actggactag tggatccgag ctcggatcca agcttaagtt taaaccgctg atcagcctcg 420
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ctgaaaggtg ccactccac 500

<210> 65
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<212> DNA
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<220>
<223> Splice junction sequence

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<210> 66
<211> 6
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<213> Artificial Sequence

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from Escherichia coli lacZ gene

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1 5

<210> 67
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequence derived
from Escherichia coli lacZ gene

<400> 67
ggagttgatc ccgtc 15

<210> 68
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Artificial sequence comprising sequences derived
from Escherichia coli lacZ gene

<400> 68
gcagtgtcct tgtgcggta ccctgcaggg cggcttc 37

<210> 69
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<212> DNA
<213> Artificial Sequence

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<223> PTM binding domain of PTM

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<212> DNA
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<220>
<223> Spacer sequence of PTM

<400> 70
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<210> 71
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point, pyrimidine tract and acceptor splice
site of PTM

<400> 71
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<210> 72
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Donor site and spacer sequence of PTM

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gatccacccgg 70

<210> 73
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<220>
<223> Binding domain of spacer sequence

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aactcattat caaatcacgc 260

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<210> 75
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<220>
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<400> 75
actcagtgta attccacctt ctc 23

<210> 76
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<400> 76
gacctctgca gacttcactt ctaatgatga ttatgg 36

<210> 77
<211> 33
<212> DNA
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<210> 78
<211> 33
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<400> 78
ctagggttac cgaagtaaaa ccatacttat tag 33

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<223> spacer sequence, see SEQ ID NO: 70

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<211> 71
<212> DNA
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<220>
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tatgatgaaa a 71

<210> 87
<211> 66
<212> DNA
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<220>
<223> Oligonucleotide

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<210> 88
<211> 192
<212> DNA
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<220>
<223> PTM sequence

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aacataatct tcggcgtcag ttacgacgag taccgctatac gctcggtgat taaggcctgt 180
cagttggagg ag 192

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<400>	97		
ccaaactagaa	gaggacatct	ccaaagt	27
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cgtttacagg	taagtggatc	c	21
<210>	99		
<211>	27		
<212>	DNA		
<213>	Artificial Sequence		
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<400>	99		
ctgcaggcg	gcttcgtcta	ataatgg	27
<210>	100		
<211>	47		

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Sequence from trans-splicing domain

 <400> 100
 tactaactgg taccttttctt ttttttttgg atatcctgca gggcggc 47

 <210> 101
 <211> 1584
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> CFTR PTM

 <400> 101
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 agaccaattt tgaggaaagg atacagacag cgccctggaaat tgcacat ataccaaattc 120
 ccttctgtt attctgctga caatctatct gaaaaattgg aaagagaatg ggatagagag 180
 ctggcttcaa agaaaaatcc taaactcatt aatgccttc ggcgtgttt tttctggaga 240
 tttatgttctt atgaaatctt tttatattta ggggaagtca ccaaaggcgtt acagccttc 300
 ttactgggaa gaatcatagc ttctatgac cccgataaca aggagaaacg ctctatcg 360
 atttatcttag gcataggctt atgccttc tttattgtga ggacactgtt cttacacc 420
 gccattttttgccttcatca cattggaaatg cagatggaaa tagctatgtt tagtttgatt 480
 tataagaaga cttaaagctt gtcaagccgtt gttctatgat aaataagtat tggacaactt 540
 gtttagtctcc tttccaacaa cctgaacaaa ttgtatgaag gacttgcattt ggcacatttc 600
 gtgtggatcg ctcccttgca agtggcactt ctcattggggc taatctggga gttgttacag 660
 gctgtctgcct tctgtggact tggtttctt atagtcctt cccttttca ggctgggc 720
 gggagaatga tggatggaaatg cagagatcg agagctggga agatcaatgtt aagacttgc 780
 attaccttagt aaatgtatcgaa gaacatccaa tctgttaagg catactgtt ggaagaagca 840
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 ggagcaggca agacgagctt gctcatgtt atcatggggc agtttggacc aagtgtaaaggc 1440
 aagatcaaaccatccatcgccg catcagctt tgcagccaaat tcagttggat catgcccgtt 1500
 accatcaagg agaacataat cttcggcgatc agttacgacg agtaccgcta tcgctcggtt 1560
 attaaggcctt gtcagttggaa ggag 1584

 <210> 102
 <211> 323
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Trans-splicing domain of CFTR PTM

 <400> 102
 gtaagatataccgatatgtt gtctaaccttgcatttggccatc tcgataacgtt aagatccacc 60
 ggtcaaaaatggtttccatatttcttacc ttttcttggaaat ttcattgtttt gatgacgctt 120
 ctgttatcttatttcttaccatcatttggaaacaccaatgatatttttctttaatgttgcctggcata 180
 atccctggaaaactgtatcataacaatcatggaaatttcttccactgtt gcttaatttttaccctctgaa 240

ttctccattt ctcccataat catcattaca actgaactct ggaaataaaa cccatcatta 300
ttaactcatt atcaaatcac gct 323

<210> 103
<211> 165
<212> DNA
<213> Artificial Sequence

<220>
<223> PTM Binding domain

<400> 103
gctagcaata atgacgaagc cgcccctcac gctcaggatt cacttgcc tc caattatcat 60
cctaagcaga agtgtatatt cttaattgt aagattctat taactcattt gattcaaaat 120
atttaaaata cttcctgttt cacctactct gctatgcacc cgccgg 165

<210> 104
<211> 225
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-splicing domain of CFTR PTM

<400> 104
aataatgacg aagccgcccc tcacgctcag gattcactt ccctccaatt atcatcctaa 60
gcagaagtgt atattctt ttgttaaagat tctattaact catttgattc aaaatattt 120
aaatacttcc tgtttaccc actctgtat gcacccgcgg aacattatta taacgttgc 180
cgaatactaa ctggtaccc ttctttttt tttgatatcc tgca 225

<210> 105
<211> 3069
<212> DNA
<213> Artificial Sequence

<220>
<223> CFTR PTM sequence

<400> 105
acttcacttc taatgatgat tatggagaa ctggagcctt cagaggtaa aattaagcac 60
agtggaaagaa tttcattctg ttctcagttt tcctggatta tgcctggcac cattaaagaa 120
aatatcatct ttgggtttc ctatgatgaa tatacataca gaagcgtcat caaagcatgc 180
caactagaag aggacatctc caagtttgcg gagaagaca atatagttct tggagaaggt 240
ggaatcacac tgagtggagg tcaacgagca agaattttt tagcaagagc agtataacaaa 300
gatgctgatt ttttattt agactctcct ttggatacc tagatgttt aacagaaaaaa 360
gaaatattt gaaatgtgt ctgttaactg atggctaaaca aaactaggat ttgggtcact 420
tctaaaatgg aacatttaaa gaaagctgac aaaatattt ttttgcata aggtagcagc 480
tattttatg ggacatttc agaactccaa aatctacagc cagactttt ctcacaaactc 540
atggatgtt attcttcga ccaatttttgc gcaatggaa gaaattcaat ccttaacttgag 600
actttacacc gtttctcatt agaaggagat gtcctgtct cctggacaga aacaaaaaaa 660
caatcttta aacagactgg agagtttggg gaaaaaaagga agaattctat tctcaatcca 720
atcaactcta tacgaaaatt ttccattgtt caaaagactc ctttacaaat gaatggcattc 780
gaagaggatt ctgtatggcc ttttagagaga aggctgtct tagtaccaga ttctgagcag 840
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ggagaaatcc agatcgatgg tgggtcttgg gattcaataa ctttgcacaa gtggaggaaa 2460
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agaagaactc taaaacaacg atttgctgtat tgccacagtaa ttctctgtga acacaggata 2820
gaagcaatgc tggaaatgcca acaatttttg gtcatagaag agaacaaagt gcggcgtac 2880
gattccatcc agaaaactgct gaacgagagg agccttcc ggcaagccat cagccccctcc 2940
gacaggggtga agctcttcc ccacccggaa tcaagcaagt gcaagtctaa gccccagatt 3000
gctgctctga aagaggagac agaagaagag gtgcaagata caaggcttca tcatcatcat 3060
catcattag

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<210> 106
<211> 131
<212> DNA
<213> Artificial Sequence
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<220>
<223> Binding domain of mouse factor VIII PTM

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<400> 106
ctcgagctta cctgaactaa ttttttagaa tattaaaatc ctaagctttt atatcttat 60
ccctctatct ttgcgtctct atccaatttt tattaactta gactttaaaa agaaaacttat 120
qaaaaaaatt t 131
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<210> 107
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequence of PTM

<400> 107
ccgcggaaaca ttattataac gttgctcgaa tactaactgg taccttttct ttttttttg 60
atatcctqca q 71

<210> 108

<211> 527
<212> DNA
<213> Artificial Sequence

<220>
<223> Chicken beta actin promoter sequences

<400> 108
ccatggtcga cgtagcccc acgttgtctgc tcactctccc catctcccccc ccctccccac 60
cccccaatttt gtattttattt attttttaat tattttgtgc agcgatgggg gcgggggggg 120
ggggggggcg cgccgcaggc ggggcggggc ggggcgaggg gcggggcggg gcgaggcgga 180
gaggtgcggc ggcagccaat cagagcggcg cgctccgaaa gttcctttta tcgcgaggcg 240
gcggcggcg cgccctata aaaagcgaag cgccgcggcg ccgggagtcg ctgcgacgct 300
gccttcgccc cgtcccaacc tccgcctcga gcttacctga actaatttt tagaatatta 360
aaatcctaag cttttatact cctatccctc tatcttttcg tctctatcca atttttatta 420
acttagactt taaaaagaaa cttatgagaa aaattccgc ggaacattat tataacgtt 480
ctcgaatact aactggtacc tcttctttt ttttgatat cctgcag 527

<210> 109
<211> 169
<212> DNA
<213> Artificial Sequence

<220>
<223> Sequence not included in construct

<400> 109
cgccgcctcg cgccgccccgc cccggctctg actgaccgcg ttactccac aggtgagcgg 60
gcgggacggc ccttctcctc cgggctgtaa tttagcgcttg gtttaatcac ggcttgttc 120
ttttctgtgg ctgcgtgaaa gccttgaggg gctccggag gaattcgt 169

<210> 110
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> F8 PTM sequences

<400> 110
ggagtcgctg cgacgctgcc ttccggccgt gccaacctcc gc 42

<210> 111
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> F8 PTM sequences

<400> 111
ctcgagcacc gatatcgtaa ct 22

<210> 112
<211> 53
<212> DNA
<213> Artificial Sequence

<220>

<223> Exon 26, Flag tag, stop sequences of mouse factor VIII PTM

<400> 112
gaggcccaagc agcaatacga ctacaaggac gacgatgaca agtgagttta aac 53

<210> 113
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Spacer sequences of human or canine factor VIII PTM

<400> 113
ccgcggaaaca ttattataac gttgctcgaa tactaactgg taccttttctt ttttttttg 60
atatcctgca g 71

<210> 114
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point and polypyrimidine tract sequences of human papilloma virus PTM

<400> 114
tactaactgg taccttttctt ttttttttg atatcctgca gggcg 47

<210> 115
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Branch point and polypyrimidine tract of human papilloma virus PTM

<400> 115
tactaactgg taccttttctt ttttttttg atatcctgca gggcg 47

<210> 116
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 116
cagttaatac acctaattaa caaatcacac aacgctttgt tgtattgctg ttctaatgtt 60
gttccataaca cactataaca 80

<210> 117
<211> 149
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 117
cagttataac acctaattaa caaatcacac aacgctttgt tgtattgctg ttctaatgtt 60
gttccataaca cactataaca ataatgtcta tactcactaa ttttagaata aaactttaaa 120
catttatcac atacagcata tcgattccc 149

<210> 118
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 118
gatgatctgc aacaagacat acatcgaccg gtcca 35

<210> 119
<211> 104
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 119
cttcaggaca cagtggctt tgacagttaa tacacctaatacacaatca cacaacggtt 60
tgttgtattg cagttctatg ttgttccata cacactataaa caat 104

<210> 120
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 120
gatgatctgc aacaagac 18

<210> 121
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 121
gacacagtgg ctttgacag ttaatacacc taattaacaa atcacacaac ggtttgttgt 60
attgcagttc taatgttgg ccatacacac tataacaat 99

<210> 122
<211> 138
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 122
gatgatctgc aacaagacat acatcgaccg gtccacttca ggacacagtg gctttgaca 60
gttaatagac ctaattaaca aatcacacaa cggttggta tattgcagtt ctaatgttgt 120
tccatacaca ctataaca 138

<210> 123
<211> 89
<212> DNA
<213> Artificial Sequence

<220>
<223> Binding domain of human papilloma virus PTM

<400> 123
gatgatctgc aacaagacga cacagtggct tttgacagtt aatacaccta attaacaat 60
cacacaacgg ttgttgtat tgcagttct 89

<210> 124
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product

<400> 124
agaatgtgtg tactgcaagc aacagttact gcgacgtgag ggcggcttcg tctggactg 60
ggtgga 66

<210> 125
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> Trans-spliced product

<400> 125
gtgtactgca agcaacagtt actgcgacgt gagggcggct tcgtctggta ctgggtggat 60
cagtcgctga t 71

<210> 126
<211> 500
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse complement of trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequences

<400> 126
gtggggagtgg cacttccag ggtcaaggaa ggcacgggg aggggcaaac aacagatggc 60
tggcaactag aaggcacagt cgaggctgat cagcggtta aacttaagct tggtaccgag 120
ctcggatcca ctagtccagt gtggtggaa tctgcagata tccagcacag tggcggccgc 180

ctaatgatga ttagatgatgat gctcttctag ttggcatgct ttgatgacgc ttctgtatct 240
atattcatca taggaaacac caaagatgat atttctta atgggccag gcataatcca 300
ggaaaactga gaacagaatg aaattctcc actgtgctta atttaccct ctgaaggctc 360
cagttctccc ataatcatca ttagaagtga agtctgcagg aaaaaaaaaga agaggtacca 420
gttagtactc gagcaacgtt ataataatgt tccgcggata atgaccta atgatgggt 480
ggcccggtt aaacgctagc 500

<210> 127
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> 3'end of trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequences

<400> 127
gctagcggtt aa 12

<210> 128
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> 5'end of trans-spliced product comprising cystic fibrosis
transmembrane regulator-derived sequences and His
tag sequences

<400> 128
tgccactccc ac 12